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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,479	04/16/2004	Eiki Matsuo	B-4460PCTDIV3 621784-1	1523

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EXAMINER	
STULTZ, JESSICA T	

ART UNIT	PAPER NUMBER
2873	

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/826,479	MATSUO, EIKI	
	Examiner	Art Unit	
	Jessica T Stultz	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 10/031,026.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

Claims 11-14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 11-14 of copending Application No. 10/729,320 (herein referred to as Matsuo '320) in view of Togino Patent number 6,201,648. Regarding independent claims 11-14 of the present invention, Matsuo '320 discloses an image optical system in which a plurality of light beams emerge from an image-forming device on a conjugate plane A and having a divergence angle of 10 degrees or greater made obliquely incident upon a conjugate plane B to form on the conjugate plane B an enlarged image approximately similar to an image formed by the image-forming device, the image optical system comprising the same limitations as the present invention for the first and second optical systems, wherein the first optical system has a plurality of optical elements along an axis (Claims 11-14 of Matsuo '320), but does not specifically disclose that the plurality of optical elements of the first optical system are refracting optical elements or that the second optical system includes a reflecting optical element having a free-form surface having the function of converging the plurality of light beams from the image-forming device. Togino teaches of an optical display device including a plurality of refracting optical elements for the purpose of providing variable refraction power of the optical system (Column 54, lines 31-54, wherein the optical system has variable reflecting optical components, Figures 56) and a reflecting optical element, specifically a mirror, having a free-from, i.e. rotationally asymmetric, surface which is used to converge light rays from a light source for the purpose of using a single reflecting surface to convert a divergent bundle of rays (Column 57, lines 13-37, wherein the rotationally asymmetric surface "58"

converges light rays from light source "57", Figures 69-70). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made for the image optical system of Matsuo '320 to further include the plurality of optical elements of the first optical system are refracting optical elements or that the second optical system includes a reflecting optical element having a free-form surface having the function of converging the plurality of light beams from the image-forming device since Togino teaches of an optical display device including a plurality of refracting optical elements for the purpose of providing variable refraction power of the optical system and a reflecting optical element, specifically a mirror, having a free-from, i.e. rotationally asymmetric, surface which is used to converge light rays from a light source for the purpose of using a single reflecting surface to convert a divergent bundle of rays.

Claims 11-14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 11-14 of copending Application No. 10/729,437 (herein referred to as Matsuo '437) in view of Togino Patent number 6,201,648. Regarding independent claims 11-14 of the present invention, Matsuo '437 discloses an image optical system in which a plurality of light beams emerge from an image-forming device on a conjugate plane A and having a divergence angle of 10 degrees or greater made obliquely incident upon a conjugate plane B to form on the conjugate plane B an enlarged image approximately similar to an image formed by the image-forming device, the image optical system comprising the same limitations as the present invention for the first and second optical systems (Claims 11-14 of Matsuo '437), but does not specifically disclose that the first optical system include a plurality of optical elements having a common axis or that the second optical

system includes a reflecting optical element having a free-form surface and having the function of converging the plurality of light beams from the image-forming device. Togino teaches of an optical display device including a plurality of refracting optical elements for the purpose of providing variable refraction power of the optical system (Column 54, lines 31-54, wherein the optical system has variable reflecting optical components, Figures 56) and a reflecting optical display device wherein a free-from, i.e. rotationally asymmetric surface of a mirror is used to converge light rays from a light source for the purpose of using a single reflecting surface to convert a divergent bundle of rays (Column 57, lines 13-37, wherein the rotationally asymmetric surface "58" converges light rays from light source "57", Figures 69-70). In addition, Matsuo '437 teaches of an optical element in the first optical system having a free-form surface for the purpose of converging the plurality of light beams emerging form the image-forming device (Claims 11-14). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made for the image optical system of Matsuo '437 to further include the first optical system include a plurality of optical elements having a common axis or that the second optical system includes a reflecting optical element having a free-form surface and having the function of converging the plurality of light beams from the image-forming device since Togino teaches of an optical display device including a plurality of refracting optical elements for the purpose of providing variable refraction power of the optical system and a reflecting optical display device wherein a free-from, i.e. rotationally asymmetric surface of a mirror is used to converge light rays from a light source for the purpose of using a single reflecting surface to convert a divergent bundle of rays and since Matsuo '437 teaches of an

optical element in the first optical system having a free-form surface for the purpose of converging the plurality of light beams emerging form the image-forming device.

This is a provisional obviousness-type double patenting rejection.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Allowable Subject Matter

The following is an examiner's statement of reasons for allowable subject matter: none of the prior art alone or in combination disclose or teach of the claimed combination of limitations to warrant a rejection under 35 USC 102 or 103.

Specifically regarding independent claims 11-14, none of the prior art alone or in combination disclose or teach of an image optical system including first and second optical system each having an optical axis, specifically wherein the image optical system satisfies the claimed relationships.

Response to Arguments

Applicant's arguments filed October 27, 2004 have been fully considered but they are not persuasive. Specifically, applicant argues that the examiner has not treated all of the differences between the claims of the instant application and DIV I (US 10/729,320), specifically, limitations such as "the optical elements are decentered" or "the optical elements having no common optical axis" are not addressed. The examiner agrees that these limitations are not addressed, however, it is not necessary to address these limitations since they are additional limitations within the prior art reference, Matsuo application 10/729,320 and are not limitations within the present application that have not been addressed by the examiner. The examiner has no obligation to show why additional limitations within the cited prior art are lacking from the applicant's invention but rather to show that the limitations of the applicant's invention are disclosed in the prior art reference. Similarly, applicant argues that the examiner has not treated all of the differences between the claims of the instant application and DIV II (US 10/729,437), specifically the limitation as "at least one optical element having a free-formed surface". The examiner agrees that this limitation is not addressed, however, it is not necessary to address these limitations for the same reasons set forth above concerning Matsuo 10/729,320.

For an obvious type nonstatutory double patenting rejection, the examiner is only required to provide one-way obviousness, i.e. establishing that the claims of the application are

obvious over the conflicting reference. Two way obviousness, i.e. establishing that both of the claims of the application are obvious over the conflicting reference and that the conflicting claims are obvious over the claims of the application, as suggested by the applicant, is only required when the claims could not have been filed in the same application and administrative delay was caused by the PTO, which is not the case in this application. See MPEP 804, specifically under heading II, "Requirements of a double patenting rejection", section B. Therefore the examiner is only required to provide one way obviousness motivation which is shown above in the corresponding double patenting rejection wherein motivation to add the limitations from the application are found in the Togino patent.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The examiner believes that the conclusion of obviousness is based upon only knowledge within the level of skill of ordinary art at the time the invention was made and therefore is not improperly based upon hindsight reasoning.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge

generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Togino reference is used to modify the prior art references, DIV I and DIV II, rather than the present application and the motivation to combine Togino with the prior art references is cited above.

Specifically, regarding DIV I, it would have been obvious to one having ordinary skill in the art at the time the invention was made for the image optical system of Matsuo '320 to further include the plurality of optical elements of the first optical system are refracting optical elements or that the second optical system includes a reflecting optical element having a free-form surface having the function of converging the plurality of light beams from the image-forming device since Togino teaches of an optical display device including a plurality of refracting optical elements for the purpose of providing variable refraction power of the optical system (Column 54, lines 31-54, wherein the optical system has variable reflecting optical components, Figures 56) and a reflecting optical element, specifically a mirror, having a free-from, i.e. rotationally asymmetric, surface which is used to converge light rays from a light source for the purpose of using a single reflecting surface to convert a divergent bundle of rays (Column 57, lines 13-37, wherein the rotationally asymmetric surface "58" converges light rays from light source "57", Figures 69-70).

Similarly, regarding DIV II, it would have been obvious to one having ordinary skill in the art at the time the invention was made for the image optical system of Matsuo '437 to further include the first optical system include a plurality of optical elements having a common axis or that the second optical system includes a reflecting optical element having a free-form surface

and having the function of converging the plurality of light beams from the image-forming device since Togino teaches of an optical display device including a plurality of refracting optical elements for the purpose of providing variable refraction power of the optical system (Column 54, lines 31-54, wherein the optical system has variable reflecting optical components, Figures 56) and a reflecting optical display device wherein a free-from, i.e. rotationally asymmetric surface of a mirror is used to converge light rays from a light source for the purpose of using a single reflecting surface to convert a divergent bundle of rays (Column 57, lines 13-37, wherein the rotationally asymmetric surface "58" converges light rays from light source "57", Figures 69-70) and since Matsuo '437 teaches of an optical element in the first optical system having a free-form surface for the purpose of converging the plurality of light beams emerging form the image-forming device (Claims 11-14).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica T Stultz whose telephone number is (571) 272-2339. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jessica Stultz
Patent Examiner
AU 2873
December 29, 2004

JORDAN SCHWARTZ
PRIMARY EXAMINER